



NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[NRC-2018-0291]

RIN 3150-AK23

American Society of Mechanical Engineers Code Cases and Update Frequency

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations to incorporate by reference proposed revisions of three regulatory guides, which would approve new, revised, and reaffirmed code cases published by the American Society of Mechanical Engineers. This proposed action would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases listed in these draft regulatory guides as voluntary alternatives to engineering standards for the construction, inservice inspection, and inservice testing of nuclear power plant components. The NRC is requesting comments on this proposed rule and on the draft versions of the three regulatory guides proposed to be incorporated by reference. The NRC also is making available a related draft regulatory guide that lists code cases that the NRC has not approved for use. This draft regulatory guide will not be incorporated by reference into the NRC's regulations. In addition, this rulemaking proposes to extend the time periods required for licensees to update their codes of record.

DATES: Submit comments by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received before this date.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject); however, the NRC encourages electronic comment submission through the Federal rulemaking website:

- **Federal rulemaking website:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2018-0291. Address questions about NRC dockets to Dawn Forder; telephone: 301-415-3407; email: Dawn.Forder@nrc.gov. For technical questions contact the individuals listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **Email comments to:** Rulemaking.Comments@nrc.gov. If you do not receive an automatic email reply confirming receipt, then contact us at 301-415-1677.

- **Mail comments to:** Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: Dennis Andrukat, Office of Nuclear Material and Safeguards, telephone: 301-415-3561, email: Dennis.Andrukat@nrc.gov and Bruce Lin, Office of Nuclear Regulatory Research, telephone: 301-415-2446, email: Bruce.Lin@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

SUPPLEMENTARY INFORMATION:

Executive Summary:

A. Need for the Regulatory Action

This regulatory action proposes to incorporate by reference into the NRC's regulations the latest revisions of three regulatory guides (RGs) (currently in draft form for comment). The three draft RGs identify new, revised, and reaffirmed code cases published by the American Society of Mechanical Engineers (ASME) that the NRC has determined are acceptable for use as voluntary alternatives to compliance with certain provisions of the ASME *Boiler and Pressure Vessel Code* (BPV Code) and the ASME *Operation and Maintenance (OM) of Nuclear Power Plants, Division 1, OM Code: Section IST* (OM Code) currently incorporated by reference into the NRC's regulations.

This regulatory action also proposes to revise the current NRC requirement for nuclear power plant licensees to update the codes of record for their inservice testing (IST) and inservice inspection (ISI) programs every 10 years, for licensees that are implementing the 2020 Edition, or later editions, of the ASME OM Code and the 2019 Edition, or later editions, of the ASME BPV Code, Section XI, as incorporated by reference in § 50.55a, "Codes and standards," of title 10 of the *Code of Federal Regulations* (10 CFR). This proposed revision to the NRC's regulations follows Commission direction in staff requirements memorandum (SRM) SRM-SECY-21-0029 (dated November 8, 2021) in response to SECY-21-0029, "Rulemaking Plan on Revision of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a," dated March 15, 2021. This rule proposes additional changes to § 50.55a to promote clarity and consistency, including adding definitions of important terms and revising the reference to the 10-year service period in 10 CFR part 50, appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors." This rulemaking does not address all aspects of SRM-SECY-21-0029.

Specifically, the NRC staff will consider options for streamlining ASME Code Case rulemakings in the future.

B. Major Provisions

The NRC proposes to incorporate by reference into the NRC's regulations the following regulatory guides: RG 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," Revision 40 (Draft Regulatory Guide (DG)-1405); RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 21 (DG-1406); and RG 1.192, "Operation and Maintenance [OM] Code Case Acceptability, ASME OM Code," Revision 5 (DG-1407). This proposed action would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases newly listed in these revised RGs as voluntary alternatives to ASME engineering standards for the construction, inservice inspections, and inservice testing of nuclear power plant components. The NRC also notes the availability of a proposed version of RG 1.193, "ASME Code Cases Not Approved for Use," Revision 8 (DG-1408). This document lists code cases that the NRC has not approved for generic use and would not be incorporated by reference into the NRC's regulations.

The NRC prepared a draft regulatory analysis to determine the expected quantitative costs and benefits of this proposed rule, as well as qualitative factors to be considered in the NRC's rulemaking decision. The analysis concluded that this proposed rule would result in net savings to the industry and the NRC. As shown in Table 1, the estimated total net benefit relative to the regulatory baseline and the quantitative benefits would outweigh the costs by a range from approximately \$34.3 million (7-percent net present value) to \$40.5 million (3-percent net present value).

Table 1 — Cost Benefit Summary

Attribute	Total averted costs (costs)		
	Undiscounted	7% Net Present Value	3% Net Present Value
Industry Implementation	\$0	\$0	\$0
Industry Operation	\$36,710,000	\$29,890,000	\$35,110,000
<i>Total Industry Costs</i>	<i>\$36,710,000</i>	<i>\$29,890,000</i>	<i>\$35,110,000</i>
NRC Implementation	(\$510,000)	(\$430,000)	(\$480,000)
NRC Operation	\$6,380,000	\$4,860,000	\$5,860,000
<i>Total NRC Costs</i>	<i>\$5,870,000</i>	<i>\$4,430,000</i>	<i>\$5,380,000</i>
Net	\$42,580,000	\$34,320,000	\$40,490,000

The draft regulatory analysis also considered the following qualitative considerations:

(1) flexibility and decreased uncertainty for licensees when making modifications or preparing to perform inservice inspection or inservice testing; (while continuing to ensure safety; 2) consistency with the provisions of the National Technology Transfer and Advancement Act of 1995, which encourages Federal regulatory agencies to consider adopting voluntary consensus standards as an alternative to *de novo* agency development of standards affecting an industry; (3) consistency with the NRC's policy of evaluating the latest versions of consensus standards in terms of their suitability for endorsement by regulations and regulatory guides; and (4) consistency with the NRC's goal to harmonize with international standards to improve regulatory efficiency for both the NRC and international standards groups.

The draft regulatory analysis concludes that this proposed rule should be adopted because it is justified when integrating the cost-beneficial quantitative results and the positive and supporting nonquantitative considerations in the decision. For more information, please see the draft regulatory analysis as indicated in Section XVI, Availability of Documents, of this document.

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I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID NRC-2018-0291 when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2018-0291.

- **NRC's Agencywide Documents Access and Management System**

(ADAMS): You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by email to PDR.Resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents, by appointment, at the NRC's PDR, Room P1 B35, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

B. Submitting Comments

The NRC encourages electronic comment submission through the Federal rulemaking website (<https://www.regulations.gov>). Please include Docket ID NRC-2018-0291 in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <https://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Background

A. Proposed Incorporation by Reference of Three Regulatory Guides

The ASME develops and publishes the ASME BPV Code, which contains requirements for the design, construction, and inservice inspection of nuclear power

plant components, and the ASME OM Code,¹ which contains requirements for preservice and inservice testing of nuclear power plant components. In response to BPV and OM Code user requests, the ASME develops code cases that provide voluntary alternatives to BPV and OM Code requirements under special circumstances.

The NRC approves the ASME BPV and OM Codes in § 50.55a, “Codes and standards,” through the process of incorporation by reference. As such, each provision of the ASME Codes incorporated by reference into and mandated by § 50.55a constitutes a legally-binding NRC requirement imposed by rule. As noted previously, the ASME Code Cases, for the most part, represent alternative approaches for complying with provisions of the ASME BPV and OM Codes. Accordingly, the NRC periodically amends § 50.55a to incorporate by reference the NRC’s RGs listing approved ASME Code Cases that may be used as voluntary alternatives to the BPV and OM Codes.²

This proposed rule is the latest in a series of rules that incorporate by reference new versions of several RGs that identify new, revised, and reaffirmed³ ASME Code Cases that the NRC unconditionally or conditionally approves for use. In developing these RGs, the NRC reviews the ASME BPV and OM Code Cases, determines the acceptability of each code case, and publishes its findings in the RGs. The RGs are revised periodically as new code cases are published by the ASME. The NRC incorporates by reference the RGs listing acceptable and conditionally acceptable ASME Code Cases into § 50.55a. The NRC published a final rule dated March 3, 2022 (87 FR 11934), that incorporated by reference into § 50.55a the most recent versions of the RGs, which are RG 1.84, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” Revision 39; RG 1.147, “Inservice Inspection Code Case

¹ The editions and addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants have had different titles from its initial issuance and are referred to as the “OM Code” collectively in this rule.

² See *Federal Register* final rule, “Incorporation by Reference of ASME BPV and OM Code Cases” (68 FR 40469; July 8, 2003).

³ Code cases are categorized by the ASME as one of three types: new, revised, or reaffirmed. A new code case provides for a new alternative to a specific ASME Code provision or addresses a new need. The ASME defines a revised code case to be a revision (modification) to an existing code case to address, for example, technological advancements in examination techniques or to address NRC conditions imposed in one of the RGs that have been incorporated by reference into § 50.55a. The ASME defines “reaffirmed” as an OM Code Case that does not have any change to technical content but includes editorial changes.

Acceptability, ASME Section XI, Division 1,” Revision 20; and RG 1.192, “Operation and Maintenance Code Case Acceptability, ASME OM Code,” Revision 4.

B. Proposed Revision to Code of Record Update Requirements

The NRC staff provided SECY-21-0029 to the Commission with a proposed rulemaking plan for revising the IST and ISI code of record update requirements in § 50.55a. The Commission issued SRM-SECY-21-0029, directing the staff to proceed with the proposed rulemaking plan. In SECY-22-0075, “Staff Requirements-SECY-21-0029 Inservice Testing and Inservice Inspection Program Rulemakings Update,” dated August 10, 2022, the staff described deviations it was taking from the original plan in response to new information and changed circumstances that affected the implementation of SRM-SECY-21-0029. These changes included combining the two proposed rulemakings (the ASME code case and the IST and ISI code of record update requirements). These changes also included making conforming and clarifying changes to address issues encountered during the development of this proposed rule. One such change was the addition of a definition section to the proposed rule (§ 50.55a(y)) where “code of record interval” (the period of time between the code of record updates required by § 50.55a(f)(4) and (g)(4) for the IST and ISI programs, respectively) was differentiated from both the ISI and IST intervals (the ASME interval described by the licensee’s code of record).

In this proposed rule, along with incorporating by reference three regulatory guides on ASME Code Cases, the NRC is providing a proposed revision to § 50.55a for public comment in accordance with the Commission’s direction in SRM-SECY-21-0029. This proposed rule would specify that licensees are required to update their IST and ISI codes of record every two consecutive IST intervals or ISI intervals, as defined in the proposed rule, provided the licensee implements the 2020 Edition, or later edition, of the ASME OM Code and the 2019 Edition, or later edition or addenda, of ASME BPV Code, Section XI, as incorporated by reference in § 50.55a, for their IST and ISI programs,

respectively. With this revised requirement to update the code of record, the NRC does not intend that the code of record interval for an IST or ISI program would exceed 25 years, even if ASME extends the IST interval or the ISI interval beyond 12 years in the ASME OM Code or the ASME BPV Code, respectively. The proposed 25-year maximum code of record interval would allow the same code of record to be used for two consecutive ISI or IST intervals, each up to 12 years, plus the one-time 1-year extension for IST and ISI programs as specified in the ASME OM Code and ASME BPV Code, respectively. If future editions of the ASME OM Code or ASME BPV Code or future code cases extend the IST interval or ISI interval, respectively, beyond 12 years, the NRC would need to maintain the proposed 25-year maximum code of record interval.

In draft Revision 5 to RG 1.192, the NRC is proposing to conditionally accept ASME OM Code Case OMN-31, "Alternative to Allow Extension of ISTA-3120 Inservice Examination and Test Intervals From 10 Years to 12 Years," as a voluntary alternative to the 10-year interval specified in the ASME OM Code for applicants and licensees implementing the 2020 Edition of the ASME OM Code or later editions as incorporated by reference in § 50.55a. In draft Revision 21 to RG 1.147, the NRC is proposing to conditionally accept ASME Code Case N-921, "Alternative 12-yr Inspection Interval Duration, Section XI, Division 1," as a voluntary alternative to the 10-year interval specified in Section XI, IWA-2400 of the ASME BPV Code for applicants and licensees implementing the 2019 Edition of the ASME BPV Code or later editions as incorporated by reference in § 50.55a.

III. Discussion

A. Proposed Incorporation by Reference of Three Regulatory Guides

This proposed rule would incorporate by reference the latest revisions of the NRC's RGs that list the ASME BPV and OM Code Cases that the NRC finds to be acceptable, or acceptable with NRC-specified conditions ("conditionally acceptable").

RG 1.84, Revision 40 (DG-1405) would supersede the incorporation by reference of Revision 39; RG 1.147, Revision 21 (DG-1406) would supersede the incorporation by reference of Revision 20; and RG 1.192, Revision 5 (DG-1407) would supersede the incorporation by reference of Revision 4.

The ASME Code Cases that are the subject of this proposed rule are the new and revised Section III and Section XI Code Cases as listed in Supplements 2 through 7 to the 2019 Edition of the ASME BPV Code, Supplements 0 through 2 and selected Code Cases from Supplement 3 to the 2021 Edition of the ASME BPV Code, and the OM Code Cases listed in the 2022 Edition of the ASME OM Code. By letter dated December 22, 2021, ASME requested that the NRC consider including Code Cases N-663-1, N-885-1, and N-921 in this proposed rulemaking. In response, the NRC included these three code cases within the scope of this proposed rule. The NRC is also proposing to include OMN-31 within the scope of this proposed rule to provide consistency between the ISI and IST programs.

The ASME publishes code cases that provide alternatives to existing code requirements that the ASME developed and approved. This proposed rule would incorporate by reference the most recent revisions of RGs 1.84, 1.147, and 1.192, which allow nuclear power plant licensees, and applicants for combined licenses, standard design certifications, standard design approvals, and manufacturing licenses under the regulations that govern license certifications, to use the code cases listed in these RGs as suitable alternatives to the ASME BPV and OM Codes for the construction, inservice inspections, and inservice testing of nuclear power plant components. The ASME makes the issued OM Code Cases available on the OM Code website and provides an index listing the issued OM Code Cases and their applicability in each ASME OM Code edition. In contrast, the ASME publishes BPV Code Cases in a separate document and at a different time than the ASME BPV Code Editions. This proposed rule identifies the BPV Code Cases by the edition of the ASME BPV Code under which they were

published by the ASME and the OM Code Cases by the most recent edition of the ASME OM Code to which they apply.

The following general guidance applies to the use of the ASME Code Cases approved in the latest versions of the RGs that are incorporated by reference into § 50.55a as part of this proposed rule. Specifically, the use of the Code Cases listed in the latest versions of RGs 1.84, 1.147, and 1.192 are acceptable with the specified conditions when implementing the editions and addenda of the ASME BPV and OM Codes incorporated by reference in § 50.55a.

The approval of a code case in these RGs constitutes acceptance of its technical position for applications that are not precluded by other requirements. The applicant or licensee is responsible for ensuring that use of the code case does not conflict with regulatory requirements or licensee commitments. The code cases listed in the RGs are acceptable for use within the limits specified in the code cases. If the RG states an NRC condition on the use of a code case, then the NRC condition supplements and does not supersede any condition(s) specified in the code case, unless otherwise stated in the NRC condition.

The ASME Code Cases may be revised for many reasons (e.g., to incorporate operational examination and testing experience and to update material requirements based on research results). On occasion, an inaccuracy in an equation is discovered or an examination, as practiced, is found not to be adequate to detect a newly discovered degradation mechanism. Therefore, when an applicant or a licensee initially implements a code case, § 50.55a requires that the applicant or the licensee implement the most recent version of that code case, as listed in the RGs incorporated by reference. Code cases superseded by revision are no longer acceptable for new applications unless otherwise indicated.

Section III of the ASME BPV Code applies to new construction (e.g., the edition and addenda to be used in the construction of a plant are selected based on the date of the construction permit and are not changed thereafter, except voluntarily by the

applicant or the licensee). Section III may also be used for repair and replacement activities under the provisions of Section XI of the ASME BPV Code. Whether used for construction or later repair or replacement, when a code case is first implemented by a licensee, the applicant implements the latest edition incorporated by reference into § 50.55a. Thereafter, the applicant or licensee may continue to apply the previous version of the code case or may apply the later version of the code case, including any NRC-specified conditions placed on its use, as an update to its code of record for the component.

Licensees that were using a code case prior to the effective date of its revision may continue to use the previous version until the next update to the code of record for the ISI or IST program, as applicable. This relieves licensees of the burden of having to update their ISI or IST program each time a code case is revised by the ASME and approved for use by the NRC. Code cases apply to specific editions and addenda, and code cases may be revised if they are no longer accurate or adequate, so licensees choosing to continue using a code case into a later code of record interval (e.g., after updating the edition and addenda) for the ISI or IST program must implement the latest version incorporated by reference into § 50.55a and listed in the RGs.

The ASME may annul code cases that are no longer required, are determined to be inaccurate or inadequate, or have been incorporated into the BPV or OM Codes. A code case may be revised, for example, to incorporate user experience. The older or superseded version of the code case cannot be applied by the licensee or applicant for a first use of that code case. If an applicant or a licensee applied a code case before it was listed as superseded or annulled, the applicant or the licensee may continue to use the code case until the applicant or the licensee updates its construction code of record (in the case of an applicant, updates its application) or until the licensee's code of record interval for the ISI or IST program expires, after which the continued use of the code case is prohibited unless NRC authorization is given under § 50.55a(z). If a code case is incorporated by reference into § 50.55a and later a revised version is issued by the

ASME because experience has shown that the design analysis, construction method, examination method, or testing method is inadequate, the NRC will amend § 50.55a and the relevant RG to remove the approval of the superseded code case. Applicants and licensees should not begin to implement such superseded code cases in advance of the rulemaking. This proposed rulemaking includes minor editorial changes to § 50.55a(a) to align with the Office of the Federal Register's guidance on the incorporation by reference.

B. Code Cases Proposed to be Approved for Unconditional Use

The code cases discussed in Table I are new, revised, or reaffirmed code cases in which the NRC is not proposing any conditions. The table identifies the draft regulatory guide listing the applicable code case that the NRC proposes to approve for use.

Table I—Acceptable Code Cases

Boiler and Pressure Vessel Code Section III (addressed in DG-1405, Table 1)		
Code Case No.	Published with Supplement	Title
N-351-1	3 (2021 Edition)	Use of Standard Subsize Charpy V-Notch Impact Specimens, Section III, Division 1; Section III, Division 2; Section III, Division 3
N-893	4 (2019 Edition)	Use of Alloy Steel Bar and Mechanical Tubing in Class 2 and 3 Patented Mechanical Joints and Fittings, Section III, Division 1
N-900	3 (2019 Edition)	Alternative Rules for Level D Service Limits of Class 1, 2, and 3 Piping Systems, Section III, Division 1
N-901	4 (2019 Edition)	Use of ASME SA-494 Grade M35-1 for Line Valve Bodies and Bonnets, and Bodies, Bonnets, and Yokes of Pressure Relief Valves for Class 2 and 3 Construction, Section III, Division 1
N-902	5 (2019 Edition)	Thickness and Gradient Factors for Piping Fatigue Analyses, Section III, Division 1
N-904	6 (2019 Edition)	Alternative Rules for Simplified Elastic–Plastic Analysis, Section III, Division 1

N-905	6 (2019 Edition)	Alternate Design Fatigue Curves to Those Given in For Section III Appendices, Mandatory Appendix I, Figures I-9.1 and I-9.1M, Section III, Division 1
N-908	7 (2019 Edition)	Use of Ferritic/Austenitic Wrought WPS32750/CRS32750 Fittings of Seamless or Welded Construction Conforming to SA-815, Class 3, Section III, Division 1
N-910	7 (2019 Edition)	Use of 25Cr-7Ni-4Mo-N (Alloy UNS S32750 Austenitic/Ferritic Duplex Stainless Steel) Forgings, Plate, and Welded and Seamless Pipe and Tubing Conforming to SA-182, SA-240, SA-789, or SA-790, Section III, Division 1
N-919	2 (2021 Edition)	Alternative Fatigue Evaluation Method to Consider Environmental Effects on Class 1 Components Section III, Division 1
N-920	2 (2021 Edition)	Alternative Fatigue Design Curves for Ferritic Steels With Ultimate Tensile Strengths (UTS) \leq 80 ksi (552 MPa) and Austenitic Steels, Section III, Division 1
Boiler and Pressure Vessel Code Section XI (addressed in DG-1406, Table 1)		
Code Case No.	Published with Supplement	Title
N-561-4	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 2 and High Energy Class 3 Carbon Steel Piping, Section XI, Division 1
N-562-4	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 3 Moderate Energy Carbon Steel Piping, Section XI, Division 1
N-597-5	0 (2021 Edition)	Evaluation of Pipe Wall Thinning, Section XI, Division 1
N-638-11	2 (2019 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1
N-661-5	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 2 and 3 Carbon Steel Piping for Raw Water Service Section XI, Division 1

N-663-1	3 (2021 Edition)	Alternative Requirements for Classes 1 and 2 Surface Examinations, Section XI, Division 1
N-733-1	6 (2019 Edition)	Mitigation of Flaws in NPS 3 (DN 80) and Smaller Nozzles and Nozzle Partial Penetration Welds in Vessels and Piping by Use of a Mechanical Connection Modification, Section XI, Division 1
N-780-1	1 (2021 Edition)	Alternative Requirements for Upgrade, Substitution, or Reconfiguration of Examination Equipment When Using Appendix VIII Qualified Ultrasonic Examination Systems, Section XI, Division 1
N-786-4	0 (2021 Edition)	Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping, Section XI, Division 1
N-789-5	1 (2021 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping for Raw Water Service, Section XI, Division 1
N-809-1	0 (2021 Edition)	Reference Fatigue Crack Growth Rate Curves for Austenitic Stainless Steels in Pressurized Reactor Water Environments, Section XI, Division 1
N-853-1	0 (2021 Edition)	PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion Cracking, Section XI, Division 1
N-860	6 (2019 Edition)	Inspection Requirements and Evaluation Standards for Spent Nuclear Fuel Storage and Transportation Containment Systems, Section XI, Division 1; Section XI, Division 2
N-865-2	0 (2021 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Atmospheric Storage Tanks, Section XI, Division 1
N-877-1	5 (2019 Edition)	Alternative Characterization Rules for Multiple Subsurface Radially Oriented Planar Flaws, Section XI, Division 1

N-882-1	0 (2021 Edition)	Alternative Requirements for Attaching Nonstructural Electrical Connections to Class 2 and 3 Components, Section XI, Division 1
N-885-1	3 (2021 Edition)	Alternative Requirements for Table IWB-2500-1, Examination Category B-N-1, Interior of Reactor Vessel, Category B-N-2, Welded Core Support Structures and Interior Attachments to Reactor Vessels, Category BN-3, Removable Core Support Structures, Section XI, Division 1
N-888	5 (2019 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature SMAW or Machine GTAW Temper Bead Technique, Section XI, Division 1
N-896	2 (2019 Edition)	Reference Crack Growth Rate Curves for Stress Corrosion Cracking of Low Alloy Steels in Boiling Water Reactor Environments, Section XI, Division 1
N-911	0 (2021 Edition)	Purchase, Exchange, or Transfer of Material Between Nuclear Owners, Section XI, Division 1
N-912	0 (2021 Edition)	Alternative Requirements for Qualification of Material Suppliers and Acceptance of Materials, Section XI, Division 1
N-913	0 (2021 Edition)	Alternative Examination Requirements for Class 1 Pressure-Retaining Welds in Control Rod Drive Housings, Section XI, Division 1
N-917	2 (2021 Edition)	Fatigue Crack Growth Rate Curves for Ferritic Steels in Boiling Water Reactor (BWR) Environments, Section XI, Division 1
Operation and Maintenance Code (addressed in DG-1407, Table 1)		
Code Case	Most Recent Code edition⁴	Title
OMN-28	2022 Edition	Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation
OMN-29	2022 Edition	Pump Condition Monitoring Program

⁴ Each code case or ASME Applicability Index List indicates the ASME OM Code editions and addenda to which the code case applies, except where a condition is specified in §50.55a or RG 1.192 related to technical content or applicability. This table indicates the latest OM Code edition at the time of this rulemaking.

OMN-30	2022 Edition	Alternative Valve Position Verification Approach to Satisfy ISTC-3700
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C. Code Cases Approved for Use with Conditions

The NRC has determined that certain code cases, as issued by the ASME, are generally acceptable for use, but that the alternative requirements specified in those code cases must be supplemented in order to provide an acceptable level of quality and safety. Accordingly, the NRC proposes to impose conditions on the use of these code cases to modify, limit or clarify their requirements. The conditions would specify, for each applicable code case, the additional activities that must be performed, the limits on the activities specified in the code case, and/or the supplemental information needed to provide clarity. These ASME Code Cases, listed in Table II, are included in Table 2 of DG-1405 (RG 1.84), DG-1406 (RG 1.147), and DG-1407 (RG 1.192). This section provides the NRC's evaluation of the code cases and the reasons for the NRC's proposed conditions. Notations indicate the conditions duplicated from previous versions of the RG.

The NRC requests public comment on these code cases and the proposed conditions. It also should be noted that this section only addresses those code cases for which the NRC proposes to impose condition(s), which are listed in the RG for the first time.

Table II—Conditionally Acceptable Code Cases

Boiler and Pressure Vessel Code Section III (addressed in DG-1405, Table 2)		
Code Case No.	Published with Supplement	Title
N-71-21	0 (2021 Edition)	Additional Materials for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1
N-570-3	0 (2021 Edition)	Alternative Rules for Linear Piping and Linear Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1

Boiler and Pressure Vessel Code Section XI (addressed in DG-1406, Table 2)		
Code Case No.	Published with Supplement	Title
N-711-2	6 (2019 Edition)	Alternative Examination Coverage Requirements for Examination Category B F, B J, C-F-1, C-F-2, and R-A Piping Welds, Section XI, Division 1
N-716-3	5 (2019 Edition)	Alternative Classification and Examination Requirements, Section XI, Division 1
N-754-2	0 (2021 Edition)	Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1
N-766-4	0 (2021 Edition)	Nickel Alloy Reactor Coolant Inlay and Onlay for Mitigation of PWR Full Penetration Circumferential Nickel Alloy Dissimilar Metal Welds in Class 1 Items, Section XI, Division 1
N-847-1	0 (2021 Edition)	Partial Excavation and Deposition of Weld Metal for Mitigation of Class 1 Items, Section XI, Division 1
N-880-1	0 (2021 Edition)	Alternative to Procurement Requirements of IWA-4143 for Nonstandard Welded Fittings, Section XI, Division 1
N-899	3 (2019 Edition)	Weld Residual Stress Distributions for Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082, UNS W86182, UNS N06052, or UNS W86152 Weld Filler Material, Section XI, Division 1
N-906	7 (2019 Edition)	Flaw Evaluation Procedure for Cast Austenitic Stainless Steel Piping and Adjacent Fittings, Section XI, Division 1
N-921	3 (2021 Edition)	Alternative 12-yr Inspection Interval Duration, Section XI, Division 1
Operation and Maintenance Code (addressed in DG-1407, Table 2)		
Code Case No.	Most recent OM Code edition⁵	Title
OMN-31	2022 Edition	Alternative to Allow Extension of ISTA-3120 Inservice Examination and Test Intervals From 10 Years to 12 Years

⁵ Each code case or ASME Applicability Index List indicates the ASME OM Code editions and addenda to which the code case applies, except where a condition is specified in § 50.55a or RG 1.192 related to technical content or applicability. This table indicates the latest OM Code edition at the time of this rulemaking. Conditions specified for other OM Code Cases listed in Table 2 of RG 1.192 have not changed in this rulemaking other than updating to the latest OM Code edition.

ASME BPV Code, Section III Code Cases (DG-1405/RG 1.84)

Code Case N-71-21 [Supplement 0, 2021 Edition]

Type: Revised

Title: Additional Materials for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1

The proposed conditions on Code Case N-71-21 are the same as the conditions on N-71-20 that were approved by the NRC in Revision 39 of RG 1.84. When the ASME revised N-71, the code case was not modified in a way that would make it possible for the NRC to remove the conditions. Therefore, the conditions would be retained in Revision 40 of RG 1.84.

Code Case N-570-3 [Supplement 0, 2021 Edition]

Type: Revised

Title: Alternative Rules for Linear Piping and Linear Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1

Code Case N-570-3 would update references made to ANSI/AISC N690-1994 and ANSI/AISC N690-1994 (R2004) Supplement 2 with ANSI/AISC N690-18. A difference between ANSI/AISC N690-18 and ANSI/AISC N690-1994 (R2004) is that ANSI/AISC N690-18 allows the use of the Load and Resistance Factor Design (LRFD) method or the Allowable Strength Design (ASD) method, versus the allowable stress design method or plastic design method contained in the ANSI/AISC N690-1994 (R2004) edition. Code Case N-570-2 explicitly stated in paragraph 3.11 that the plastic design method in Part 2 of ANSI/AISC N690-1994 (R2004) shall not be used. It is the NRC's understanding that the alternative requirements of code case N-570-3 for design are also intended to be limited to the design for strength using the ASD method of ANSI/AISC N690-18, which is similar to the allowable stress design method used in N-570-2; however, the code case does not include such explicit qualifiers regarding the use of ANSI/AISC N690-18. The alternative requirements for design in Code Case N-

570-3 would be limited to the design for strength using the ASD method of ANSI/AISC N690-18. To provide clarity, the NRC is proposing a condition: “This Code Case shall not be used with the Load and Resistance Factor Design method of ANSI/AISC N690-18.”

ASME BPV Code, Section XI Code Cases (DG-1406/RG 1.147)

Code Case N-711-2 [Supplement 6, 2019 Edition]

Type: Revised

Title: Alternative Examination Coverage Requirements for Examination Category B F, B J, C-F-1, C-F-2, and R-A Piping Welds, Section XI, Division 1

The condition on Code Case N-711-2 would be identical to the condition on N-711-1 that was approved by the NRC in Revision 20 of RG 1.147. When the ASME revised N-711, the code case was not modified in a way that would make it possible for the NRC to remove the condition. Therefore, the condition would be retained in Revision 21 of RG 1.147.

Code Case N-716-3 [Supplement 5, 2019 Edition]

Type: Revised

Title: Alternative Classification and Examination Requirements, Section XI, Division 1

Code Case N-716 provides rules for alternative classification and examination requirements for piping welds and components. Revision 3 to Code Case N-716 would remove the provision for plants issued an operating license after January 1, 2012, to submit the application of this Code Case for regulatory approval. The NRC is cognizant of the committee’s desire to eliminate the provision for newly constructed plants to submit first time applications of N-716 to the NRC. It was the Committee’s intention to make this Code Case more generally applicable internationally. However, the NRC is of the opinion that the new designs may introduce additional variables, which in the

absence of substantial operating experience with these new plants, may introduce uncertainty on the applicability of this Code Case to the new plants. Hence, the NRC has determined there is a need to review the initial proposals for new plants. The review would confirm the absence of new degradation mechanisms, evaluate with available operating experience, as well as the risk-related information for the new plants prior to the initial application of the Code Case to new plants. Therefore, the NRC is proposing a condition that this Code Case is not approved for use by plants issued an operating license or combined license after January 1, 2012. However, plants issued an operating license or combined license after January 1, 2012, may submit an alternative to use this Code Case in accordance with § 50.55a(z) for review and approval prior to implementation.

Code Case N-754-2 [Supplement 0, 2021 Edition]

Type: Revised

Title: Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1

The NRC is proposing to revise the conditions on N-754-1 to remove reference to the NRC's safety evaluation for the topical report "Materials Reliability Program (MRP): Technical Basis for Preemptive Weld Overlays for Alloy 82/182 Butt Welds in PWRs" (MRP-169) and to clarify the examination requirements.

The first condition deals with the use of this Code Case on a pipe that implements NRC-approved leak-before-break (LBB) methodology. The application of the LBB concept to a pipe is that if a flaw is developed in a pipe with certain favorable material properties, the pipe will most likely leak first before it fails catastrophically. The existing leakage detection system in the nuclear plant will detect the leakage and alert the operator. The operator has sufficient time to shut down the plant safely to perform corrective actions. The NRC has approved LBB for certain Class 1 reactor coolant system piping in pressurized water reactor plants based on the plant-specific and piping-

specific LBB analysis, which shows that the probability of the piping rupture is extremely low under conditions consistent with the design basis for the piping as required in General Design Criterion 4 of 10 CFR part 50, appendix A. The LBB methodology and analysis, including specific safety margins, are reviewed and approved via the license amendment process. The LBB implementation is documented in the plant final safety analysis report. When an optimized weld overlay is installed onto pipes that are approved for LBB, the licensee must verify that the safety margins specified in the original LBB analysis are still satisfied.

The second condition states that the preservice and inservice examinations of the overlaid pipe using this Code Case must be performed in accordance with

§ 50.55a(g)(6)(ii)(F). Paragraph 3(c) of N-754-2 states that—

In lieu of all other Preservice and Inservice inspection requirements, the examination requirements in accordance with N-770-2 (or later in accordance with [Paragraph] 5) shall be met. Alternately, the requirements of [subparagraphs] (1) through (3) below may be used to modify the provisions of N-770-2 (or later in accordance with [Paragraph] 5).

As stated, if the inspection of the overlaid pipe performed in accordance with N-770-2 cannot be met or performed, alternatives of Paragraphs 3(c)(1), 3(c)(2) and 3(c)(3) of N-754-2 could be used. The NRC identified the following issues regarding the statement in Paragraph 3(c):

- Paragraphs 3(c)(2) and 3(c)(3) of N-754-2 are related to the design and analysis, not the inspection of the overlaid pipe. Therefore, it is not clear how these two paragraphs can be used to modify the inspection provisions of N-770-5.
- The inspection provisions of Paragraph 3(c)(1) are allowed to be different from the provisions of Note 14, Preservice Inspection for Optimized Weld Overlays, and Note 18, Inservice Inspection of Optimized Weld Overlays, of Table 1 of N-770. The NRC notes that 10 CFR 50.55a(g)(6)(ii)(F) mandates the use of N-770, as conditioned, for the examination requirements for optimized weld overlays in dissimilar metal butt welds. Therefore, for regulatory clarity regarding preservice and inservice inspection requirements, the proposed condition is provided.

- Section 50.55a(g)(6)(ii)(F) mandates the implementation of N-770-5, rather than N-770-2
- Therefore, the NRC finds that this condition is needed to clarify the examination requirements in Paragraph 3 of N-754-2 and to ensure that N-770-5 is implemented as required by § 50.55a(g)(6)(ii)(F).

Code Case N-766-4 [Supplement 0, 2021 Edition]

Type: Revised

Title: Nickel Alloy Reactor Coolant Inlay and Onlay for Mitigation of PWR Full Penetration Circumferential Nickel Alloy Dissimilar Metal Welds in Class 1 Items, Section XI, Division 1

The proposed conditions on Code Case N-766-4 are identical to the conditions on N-766-3 that were approved by the NRC in the previous revision of RG 1.147. When the ASME revised N-766, the code case was not modified in a way that would make it possible for the NRC to remove the conditions. Therefore, the conditions would be retained in Revision 21 of RG 1.147.

Code Case N-847-1 [Supplement 0, 2021 Edition]

Type: Revised

Title: Partial Excavation and Deposition of Weld Metal for Mitigation of Class 1 Items, Section XI, Division 1

The proposed conditions on Code Case N-847-1 are identical to the conditions on N-847 that were approved by the NRC in the previous revision of RG 1.147. When the ASME revised N-847, the code case was not modified in a way that would make it possible for the NRC to remove the conditions. Therefore, the conditions would be retained in Revision 21 of RG 1.147.

Code Case N-880-1 [Supplement 0, 2021 Edition]

Type: Revised

Title: Alternative to Procurement Requirements of IWA-4143 for Nonstandard Welded Fittings, Section XI, Division 1

Code Case N-880-1 removes the size limitation in the Case by eliminating the NPS 2 size limit. The NRC does not agree with removing the small size limitation (NPS 2 and under). The NRC is proposing to continue to limit the scope of the code case to NPS 2 (DN 50) or smaller fittings because there is insufficient technical basis to expand the application to items larger than NPS 2 (DN 50). The only justification provided for this change was that it is an arbitrary limitation. However, the limitation to NPS 2 (DN 50) and under was based on the capacity of the reactor coolant makeup system being able to safely shutdown the plant if these fittings fail, and therefore, is not an arbitrary limitation.

Without a condition, approval of the code case would allow the use of these non-standard or specialized fittings in any Class 1, 2 and 3 systems, including the reactor coolant makeup system. Thus, the failure of these fittings, which lack operating experience to demonstrate their reliability, could also affect the reactor coolant makeup system's ability to provide sufficient makeup capacity. Therefore, the NRC is proposing a new condition to limit the use of Code Case N-880-1 to NPS 2 (DN 50) or smaller fittings.

Conditions 2 and 3 are identical to the conditions on N-880 that were approved by the NRC in previous revision of RG 1.147. When the ASME revised N-880, the code case was not modified in a way that would make it possible for the NRC to remove the conditions. Therefore, the conditions would be retained in Revision 21 of RG 1.147.

Code Case N-899 [Supplement 3, 2019 Edition]

Type: New

Title: Weld Residual Stress Distributions for Piping and Vessel Nozzle Butt Welds
Fabricated With UNS N06082, UNS W86182, UNS N06052, or UNS W86152 Weld Filler
Material, Section XI, Division 1

Code Case N-899 provides an alternative method for calculating the values of weld residual stress as a function of distance through the wall thickness for dissimilar metal butt welds in the reactor coolant pressure boundary. The NRC notes that Code Case N-899 may be used in conjunction with methodologies similar to those in Section XI, nonmandatory Appendix A, Article A-3000 to calculate the crack tip stress intensity factor, K_I , for inside surface connected flaws in piping or vessel nozzle butt welds fabricated with UNS N06082, UNS W86182, UNS N06052, or UNS W86152 weld filler material.

In many cases, plants do not have information on the actual repairs performed to Alloy 82/182 butt welds. However, operating experience and records indicate that repairs were common, including some welds being repaired multiple times. Weld repairs generally cause the weld residual stress to become more severe. Given the uncertainty in whether a weld repair exists or not, the NRC staff has generally found that it is appropriate to assume that a repair is present for the purposes of flaw evaluation. Therefore, consistent with the established NRC position for the weld residual stress distribution analysis for the subject welds of this code case, the inside surface repair residual stress distributions of Code Case N-899 are acceptable for use provided all known and documented repairs are bounded by the 50-percent through wall repair assumed in the case. Based on this discussion, the NRC is proposing the condition that only the standard weld residual stress distributions with repairs included, Paragraphs - 2331 and -2332, would be approved for use and only if they bound all known or documented repairs previously performed on the subject weld.

Similarly, the NRC also notes that when Paragraph -3000, Calculation of Residual Stress Using Finite Element Analysis, is applied as an option to use finite element analysis to calculate weld residual stress distributions, the weld residual stress

analysis should incorporate a minimum of a 50 percent through-wall inside surface connected weld repair as part of the analysis. This is consistent with the NRC position on repairs and weld residual stress calculations stated in this discussion. If documentation of a repair is found or a previous repair is known, the weld residual stress analysis must be evaluated to determine if it is bounded by the 50-percent repair by modeling or flaw evaluation. The more conservative of either 50-percent repair assumption or the combination of all known previous repairs should be used in the development of the weld residual stress distribution. Therefore, the NRC is proposing a condition: when developing a plant-specific weld residual stress distribution, the finite element analysis calculation of the weld residual stress distribution must use the more bounding of either an assumed previous inside surface repair of 50 percent through-wall or the combination of all known or documented previous repairs.

Code Case N-906 [Supplement 7, 2019 Edition]

Type: New

Title: Flaw Evaluation Procedure for Cast Austenitic Stainless Steel Piping and Adjacent Fittings, Section XI, Division 1

Code Case N-906 provides flaw evaluation procedure for cast austenitic stainless steel piping and fittings adjacent to girth welds as alternatives to the methods in Nonmandatory Appendix C, C-4210 and C-6330. Paragraph 1(b) of Code Case N-906 states that the provisions of this Case shall be applied to operating temperatures of 500 °F to 625 °F (260 °C to 330 °C). The paragraph also states that, if a thermal transient below this range of temperatures occurs at the flaw location, the appropriate toughness, J_i , at the minimum transient temperature shall be used along with the applied stresses at that minimum transient temperature. Accordingly, if a transient occurs below the specified temperature range, the code case requires that the flaw evaluation use the fracture toughness and applied stresses at the minimum transient temperature.

However, the limiting fracture toughness and relevant applied stress for the flaw under the transient may not be those at the minimum transient temperature. For example, Figure 32 of NUREG/CR-4513, Revision 2, "Estimation of Fracture Toughness of Cast Stainless Steels during Thermal Aging in LWR Systems," shows that the fracture toughness of a cast austenitic stainless steel material at room temperature may be higher than that at an elevated temperature. Therefore, the NRC is proposing a condition to delete the reference to the minimum transient temperature that is associated with the appropriate fracture toughness and applied stresses for the flaw evaluation. The condition also clarifies that the flaw evaluation must use the fracture toughness and applied stresses that are limiting for the flaw.

Code Case N-921 [Supplement 3, 2021 Edition]

Type: New

Title: Alternative 12-Year Inspection Interval Duration, Section XI, Division 1

Code Case N-921 increases the inservice inspection interval defined in Section XI, IWA-2400 from 10 years to 12 years. Section XI, IWA-2400 requires that licensees have an inservice inspection program that includes, for example, inspection plans, inservice inspection interval dates, and identification of code cases to be applied during the interval. While IWA-2400 requires that plants specify the edition or addenda of Section XI that will be applied during the interval, Section XI does not prescribe what constitutes an appropriate edition or addenda. In fact, IWA-2410 states that edition or addenda is "as required by the regulatory authority having jurisdiction at the plant site." The regulation at § 50.55a(g)(4)(ii) provides the regulatory basis for licensees determining which edition or addenda to apply to inservice inspection programs for a successive interval. This regulation assumes a 10-year inservice inspection interval.

A licensee applying this code case is, therefore, required by § 50.55a(4)(g)(ii) to update the code of record every 10 years. The inservice inspection interval and the code of record update interval should be synchronized to promote order and

predictability in licensee inservice inspection programs. As part of this rulemaking, the NRC also is updating § 50.55a to allow flexibility in how often the code of record is updated, provided that licensees update to the 2019 Edition of Section XI. The NRC, therefore, proposes to condition Code Case N-921 to require updating to the 2019 Edition of Section XI. This condition would ensure that the desired order and predictability in licensee inservice inspection programs is maintained.

ASME Operation and Maintenance Code Cases (DG-1407/RG 1.192)

Code Case OMN-31 [2022 Edition]

Type: New

Title: Alternative to Allow Extension of ISTA-3120 Inservice Examination and Test Intervals From 10 Years to 12 Years

For the same reasons explained for Section XI Code Case N-921, the NRC is restricting the use of OMN-31 to licensees implementing the ASME OM Code, 2020 Edition. As indicated in DG-1407/RG 1.192, this OM Code Case may be applied by licensees implementing the ASME OM Code, 2020 Edition through the latest edition of the ASME OM Code incorporated by reference in § 50.55a, contrary to the ASME OM Code Case Applicability Index, dated July 1, 2022.

Other OM Code Cases in Table 2 of Proposed Revision 5 to RG 1.192

No changes were made to the OM Code Cases listed in Table 2 of the proposed Revision 5 to RG 1.192 (with the exception of new Code Case OMN-31, discussed previously) from the versions that were listed in OM Code Cases listed in Table 2 of Revision 4 to RG 1.192. Therefore, the conditions on the OM Code Cases listed in Table 2 of the proposed Revision 5 to RG 1.192 (with the exception of new Code Case OMN-31) are identical to the conditions on those OM Code Cases that were approved by the NRC in Revision 4 of RG 1.192. The OM Code Cases listed in Table 2 of the proposed Revision 5 to RG 1.192 were re-affirmed by the ASME for the 2022 Edition of

the OM Code with no change to those OM Code Cases. Therefore, the conditions on the OM Code Cases in Table 2 are retained in proposed Revision 5 of RG 1.192.

D. ASME Code Cases Not Approved for Use (DG-1408/RG 1.193)

The ASME Code Cases that are currently issued by the ASME but not approved for generic use by the NRC are listed in RG 1.193, "ASME Code Cases not Approved for Use." In addition to the ASME Code Cases that the NRC has found to be technically or programmatically unacceptable, RG 1.193 includes code cases on reactor designs for high-temperature gas-cooled reactors and liquid metal reactors, reactor designs not currently licensed by the NRC, and certain requirements in Section III, Division 2, for submerged spent fuel waste casks, that are not endorsed by the NRC. Regulatory Guide 1.193 complements RGs 1.84, 1.147, and 1.192. It should be noted that the NRC is not proposing to adopt any of the code cases listed in RG 1.193.

E. Proposed Revision to Code of Record Update Requirements

Nuclear power plant licensees maintain their IST and ISI programs, respectively, in accordance with the requirements of the ASME OM Code and ASME BPV Code, Section XI, as incorporated by reference in § 50.55a. The initial concept of a 10-year ISI interval first appeared in the 1970 Edition of the ASME BPV Code, Section XI, in paragraph IS-240. This 10-year interval (referred to as the ISI interval) is only related to ASME ISI requirements. There is a corresponding 10-year IST interval for the OM Code requirements.

Later, in a final rule published in February 1976 (41 FR 6256), the NRC revised § 50.55a to require IST code of record updates every 20 months and ISI code of record updates every 40 months. This requirement was (and still is) independent from the ISI and IST intervals defined by the respective codes. In the early years of the development of ISI and IST programmatic requirements, the NRC requirement to update the codes of record was not synchronized with the ASME concept of an IST or ISI interval. In

January 1979 (44 FR 3719), the NRC proposed changes to § 50.55a to extend the 20- and 40-month update intervals to 120 months (10 years), in order to promote consistency with the 10-year interval in the ASME codes. The corresponding final rule was published in October 1979 (44 FR 57912).

Paragraph IWA-2420 of the 1989 Edition and later of ASME BPV Code, Section XI, requires that nuclear plant owners prepare inspection plans and schedules for each ISI interval. These plans should include a listing of all code cases to be applied during the ISI interval and alternatives authorized under § 50.55a(z). The proposed revision to § 50.55a in this rulemaking does not alter those requirements. In defining the inspection program, Paragraph IWA-2410 of ASME BPV Code, Section XI, states, “The Code Edition and Addenda for preservice inspection and for initial and successive inservice inspection intervals shall be as required by the regulatory authority having jurisdiction at the plant site.” Therefore, while ASME BPV Code, Section XI, requires plant owners to declare which edition of Section XI will be applied during each ISI interval, the code does not specify what constitutes an appropriate edition of Section XI.

Similarly, paragraph ISTA-3110, “Test and Examination Plans,” in the 2020 Edition of the ASME OM Code requires that nuclear plant owners prepare test plans for the preservice test period, initial IST intervals, and subsequent IST intervals. These plans should include a listing of all code cases to be applied during the IST interval, relief granted under § 50.55a(f), and alternatives authorized under § 50.55a(z). Paragraph ISTA-3110 requires in subparagraph (a) that each IST plan shall include “the edition and addenda of this Section that apply to the required tests and examinations.” Therefore, while the ASME OM Code requires nuclear power plant owners to declare which edition and addenda of the OM Code will be applied during each IST interval, the OM Code does not specify what constitutes an appropriate edition and addenda of the OM Code.

Thus, neither the ASME BPV Code, Section XI, nor the OM Code specify which edition to use. Rather, the NRC’s regulations in § 50.55a determine the appropriate edition and addenda of the ASME BPV Code, Section XI, or the OM Code to be applied

in each ISI or IST interval respectively. The changes proposed to these code of record requirements in this rulemaking are focused on that aspect alone.

The NRC does not intend the proposed extension of the update interval to affect the orderly implementation of IST and ISI programs. Therefore, the proposed rule is designed to synchronize the requirements of ASME Codes and § 50.55a as much as possible. For licensees with codes of record prior to ASME BPV Code, Section XI, 2019 Edition, and OM Code, 2020 Edition, as incorporated by reference in § 50.55a, the proposed rule specifies that the code of record interval for the ISI and IST programs shall be the same as the ISI interval or IST interval. This is consistent with the current requirements. For licensees with codes of record of ASME BPV Code, Section XI, 2019 Edition, or later editions and addenda, and ASME OM Code, 2020 Edition, or later editions, as incorporated by reference in § 50.55a, the proposed rule specifies that the code of record interval for the ISI and IST programs shall be updated every two consecutive ISI intervals or IST intervals, respectively.

With this revised requirement to update the code of record, the NRC does not intend that the code of record interval for an IST or ISI program will exceed 25 years, even if ASME extends the IST interval or the ISI interval beyond 12 years in the ASME OM Code or the ASME BPV Code, respectively. The 25-year maximum code of record interval allows the same code of record to be used for two consecutive ISI or IST intervals, each up to 12 years, plus the one-time, 1-year extension for IST and ISI programs as specified in the ASME OM Code and ASME BPV Code, respectively. The Commission has not approved extending the code of record intervals beyond the 25-year maximum proposed in this rulemaking. If future editions of the ASME OM Code or ASME BPV Code or future code cases extend the IST interval or ISI interval, respectively, beyond 12 years, the NRC would need to maintain the proposed 25-year maximum code of record interval.

The concept of a 120-month interval is referenced repeatedly in § 50.55a. However, the current language is not consistent or well-defined. As such, the NRC

proposes to clarify the language by introducing certain definitions in § 50.55a(y). The proposed definitions include code of record, code of record interval, inservice examination and test interval, inservice inspection program, inservice testing program, and inspection interval. The NRC also proposes to update the language throughout § 50.55a to be consistent with the proposed definitions.

With respect to relief from impractical IST requirements as requested in accordance with § 50.55a(f)(5)(iv), the NRC proposes that the duration of the granted relief be changed from the “120-month interval of operation” to the standardized definitions of the Inservice Examination and Test Interval. At the end of the Inservice Examination and Test Interval, the licensee would reassess whether the IST requirement continues to be impractical and submit an updated relief request as necessary. The NRC is proposing similar revisions for the ISI requirements in § 50.55a(g)(5)(iii) and (iv).

With respect to alternative requests in accordance with § 50.55a(z), the NRC will address the duration of each new authorized alternative in the safety evaluation describing its review of the request consistent with the current procedures for evaluating alternative requests. Existing NRC-approved alternatives were approved based on the IST or ISI interval. The proposed rulemaking language regarding the code of record interval does not extend the approval timeframe for these existing alternatives. Licensees seeking to extend the timeframe of approved alternatives therefore would need to submit an alternative request per § 50.55a(z) to continue using previously granted alternatives in a subsequent IST or ISI interval in the same code of record update interval. Licensees may request future alternatives based upon the code of record interval.

In addition, the NRC proposes to update references to the 10-year service period in appendix J to 10 CFR part 50 to be consistent with the definitions in the proposed § 50.55a(y), in which the NRC proposes to allow the ISI period to be extended to 12 years. The current rules for Type A tests under Option A (prescriptive requirements) explicitly reference the 10-year service period required in § 50.55a for inservice

inspections. Consistent with the NRC's stated goal of maintaining consistency across all NRC rules regarding ISI and IST programs, the NRC is proposing revisions to appendix J to 10 CFR part 50 to directly reference the interval defined in a revised 10 CFR 50.55a, to accommodate a 12-year ISI interval. For the reasons stated in SECY-22-0075, the NRC proposes to make this revision without changing the intent or basis for the Type A test requirement in appendix J to 10 CFR part 50.

Licensees are currently required to submit various documents, such as IST plans and schedules or Section XI flaw evaluations, to the NRC each IST or ISI interval. The language proposed in this rulemaking regarding the code of record intervals does not alter those submittal requirements in any way. Therefore, licensees should carefully distinguish requirements that apply to the code of record interval from those that apply to the IST or ISI interval. For example, § 50.55a(f)(7) requires IST plans to be submitted within 90 days of their implementation for the applicable 120-month IST program interval. This proposed rule would revise the terms used in paragraph (f)(7) for consistency with the new definitions, but submittal of IST plans would still be required within 90 days of their implementation for the applicable IST interval.

IV. Specific Requests for Comments

The NRC is seeking advice and recommendations from the public on the proposed rule. We are particularly interested in comments and supporting rationale from the public on the following:

- The NRC proposes to add § 50.55a(y) to include definitions of certain terms that may be important for delineating requirements related to IST and ISI programs. Are the proposed definitions appropriate for their intended purpose? Should the NRC consider defining other terms related to IST and ISI? Please provide the basis for your response.

- The NRC proposes to revise § 50.55a(b)(5)(ii) and (iii) to relate those requirements regarding superseded and annulled code cases to the code of record interval, as defined in § 50.55a(y) of the proposed rule. Should the NRC instead consider relating those requirements to the ISI and IST interval? Please provide the basis for your response.

V. Section-by-Section Analysis

The following paragraphs in § 50.55a would be revised as follows:

Paragraph (a)

This proposed rule would revise the introductory text to paragraph (a) by removing “standards” and adding in its place “materials” or “all approved materials”, as applicable, thereby aligning with the latest guidance on incorporation by reference.

Paragraph (a)(3)(i)

This proposed rule would revise the reference to “NRC Regulatory Guide 1.84, Revision 39,” by removing “Revision 39” and adding in its place “Revision 40” and changing the month and year for the document’s revision date.

Paragraph (a)(3)(ii)

This proposed rule would revise the reference to “NRC Regulatory Guide 1.147, Revision 20” by removing “Revision 20” and adding in its place “Revision 21” and changing the month and year for the document’s revision date.

Paragraph (a)(3)(iii)

This proposed rule would revise the reference to “NRC Regulatory Guide 1.192, Revision 4” by removing “Revision 4” and adding in its place “Revision 5” and changing the month and year for the document’s revision date.

Paragraph (b)(5)(ii)

This proposed rule would amend paragraph (b)(5)(ii) by replacing the text “120-month interval” with the text “code of record interval” and “120-month ISI program intervals” with the text “code of record intervals.”

Paragraph (b)(5)(iii)

This proposed rule would amend paragraph (b)(5)(iii) by replacing the text “120-month interval” with the text “code of record interval.”

Paragraph (b)(6)(ii)

This proposed rule would amend paragraph (b)(6)(ii) by replacing the text “120-month interval” with the text “code of record interval” and “120-month ISI program” with the text “code of record.”

Paragraph (b)(6)(iii)

This proposed rule would amend paragraph (b)(6)(iii) by replacing the text “120-month interval” with the text “code of record interval.”

Paragraph (f)(4)(i)

This proposed rule would revise the heading and text of paragraph (f)(4)(i) to replace the text “120-month” with the text “code of record.” This proposed rule also would insert the text “no more than” to clarify that licensees may consider ASME OM Code editions incorporated by reference less than 18 months before the date of issuance of the operating license or before the date of initial fuel load.

Paragraph (f)(4)(ii)

This proposed rule would revise the heading and text of paragraph (f)(4)(ii) to replace the text “120-month” with the text “code of record.” This proposed rule also would insert the text “no more than” to clarify that licensees may consider ASME OM Code editions incorporated by reference less than 18 months before the start of the code of record interval.

Paragraph (f)(5)(iv)

This proposed rule would amend paragraph (f)(5)(iv) by replacing the text “120-month interval of operation” with the text “inservice examination and test interval.”

Paragraph (f)(7)

This proposed rule would amend paragraph (f)(7) by replacing the text “120-month IST Program interval” with the text “inservice examination and test interval.”

Paragraph (g)(4) introductory text

This proposed rule would amend paragraph (g)(4) introductory text by inserting the text “BPV” into the text “ASME Code Class 1, Class 2, and Class 3” to clarify the language.

Paragraph (g)(4)(i)

This proposed rule would revise paragraph (g)(4)(i) to replace the text “120-month inspection” and “120-month ISI” with the text “code of record”; insert the text “BPV” into the text “ASME Code Class 1, Class 2, and Class 3” to clarify the language; and insert the text “no more than” to clarify that licensees may use ASME BPV Code, Section XI, editions incorporated by reference less than 18 months before the start of the code of record interval.

Paragraph (g)(4)(ii)

This proposed rule would revise paragraph (g)(4)(ii) to replace the text “120-month,” “120-month inspection,” and “120-month ISI” with “code of record”; insert the text “BPV” into the text “ASME Code Class 1, Class 2, and Class 3” to clarify the language; insert the text “no more than” to clarify that licensees may use ASME BPV Code, Section XI, editions incorporated by reference less than 18 months before the start of the code of record interval; remove outdated language; and delete the term “inservice” to ensure consistency with the definitions in the proposed § 50.55a(y).

Paragraph (g)(5)(i)

This proposed rule would amend the heading for paragraph (g)(5)(i) by replacing the text “ISI Code editions and addenda” with the text “code of record.”

Paragraph (g)(5)(ii)

This proposed rule would amend paragraph (g)(5)(ii) by replacing the text “period” with the text “code of record interval.”

Paragraph (g)(5)(iii)

This proposed rule would amend paragraph (g)(5)(iii) by removing the text “120-month.” This proposed rule also would delete the term “inservice” to ensure consistency with the definitions in the proposed § 50.55a(y).

Paragraph (g)(5)(iv)

This proposed rule would amend paragraph (g)(5)(iv) by removing the text “120-month.”

Paragraph (y)

This proposed rule would add paragraph (y) to provide definitions of important terms used in § 50.55a: *Code of record*, *Code of record interval*, *Inservice examination*

and test interval, Inservice inspection program, Inservice examination and testing program, and Inspection interval.

Appendix J to 10 CFR Part 50

This proposed rule would revise paragraph D.1.(a) in section III of option A to replace the text “10-year service period” with the text “inservice inspection interval, as defined in 10 CFR 50.55a(y),” and replace the text “10-year plant” with the text “final plant”. This proposed rule also would remove footnote 2 and redesignate footnote 3 as footnote 2.

VI. Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule, if adopted, will not have a significant economic impact on a substantial number of small entities. This proposed rule affects only the licensing and operation of nuclear power plants. The companies that own these plants do not fall within the scope of the definition of “small entities” set forth in the Regulatory Flexibility Act or the size standards established by the NRC (§ 2.810).

VII. Regulatory Analysis

The NRC has prepared a draft regulatory analysis for this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC. The NRC requests public comment on the draft regulatory analysis. The regulatory analysis is available as indicated in the “Availability of Documents” section of this document. Comments on the draft regulatory analysis may be submitted to the NRC as indicated under the ADDRESSES caption of this document.

VIII. Backfitting and Issue Finality

The provisions in this proposed rule would allow licensees and applicants to voluntarily apply NRC-approved code cases, sometimes with NRC-specified conditions. The approved code cases are listed in three RGs that are proposed to be incorporated by reference into § 50.55a. An applicant's or a licensee's voluntary application of an approved code case does not constitute backfitting, because there is no imposition of a new requirement or new position.

Similarly, voluntary application of an approved code case by a 10 CFR part 52 applicant or licensee does not represent NRC imposition of a requirement or action, and therefore is not inconsistent with any issue finality provision in 10 CFR part 52. For these reasons, the NRC finds that this proposed rule does not involve any provisions requiring the preparation of a backfit analysis or documentation demonstrating that one or more of the issue finality criteria in 10 CFR part 52 are met.

Other circumstances where the NRC does not apply the Backfit Rule to the approval and requirement to use later code editions and addenda are as follows:

1. When the NRC takes exception to a later ASME BPV Code or OM Code provision but merely retains the current existing requirement, prohibits the use of the later code provision, limits the use of the later code provision, or supplements the provisions in a later code, the Backfit Rule does not apply because the NRC is not imposing new requirements. However, the NRC explains any such exceptions to the code in the preamble to and regulatory analysis for the rule.

2. When an NRC exception relaxes an existing ASME BPV Code or OM Code provision but does not prohibit a licensee from using the existing code provision, the Backfit Rule does not apply because the NRC is not imposing new requirements.

3. Modifications and limitations imposed during previous routine updates of § 50.55a have established a precedent for determining which modifications or limitations are backfits, or require a backfit analysis (e.g., final rule dated September 10, 2008 (73 FR 52731), and a correction dated October 2, 2008 (73 FR 57235)). The application of the backfit requirements to modifications and limitations in the current rule are consistent with the application of backfit requirements to modifications and limitations in previous rules.

The incorporation by reference and adoption of a requirement mandating the use of a later ASME BPV Code or OM Code may constitute backfitting in some circumstances. In these cases, the NRC would perform a backfit analysis or prepare documented evaluation in accordance with § 50.109. These include the following:

1. When the NRC endorses a later provision of the ASME BPV Code or OM Code that takes a substantially different direction from the existing requirements, the action is treated as a backfit (e.g., 61 FR 41303; August 8, 1996).

2. When the NRC requires implementation of a later ASME BPV Code or OM Code provision on an expedited basis, the action is treated as a backfit. This applies when implementation is required sooner than it would be required if the NRC simply endorsed the Code without any expedited language (e.g., 64 FR 51370; September 22, 1999).

3. When the NRC takes an exception to an ASME BPV Code or OM Code provision and imposes a requirement that is substantially different from the existing requirement as well as substantially different from the later Code (e.g., 67 FR 60529; September 26, 2002).

ISI/IST Update Backfitting Considerations: Section XI of the ASME BPV Code and the ASME OM Code

Proposed revisions to the code of record intervals of Section XI of the ASME BPV Code and the ASME OM Code are related to the ISI and IST programs of operating

reactors. However, the Backfit Rule generally does not apply to incorporation by reference of later editions and addenda of the ASME BPV Code (Section XI) and OM Code. As previously mentioned, the NRC's longstanding regulatory practice has been to incorporate later versions of the ASME Codes into § 50.55a. Under the current § 50.55a, licensees must revise their ISI and IST programs every 120 months to the latest edition and addenda of Section XI of the ASME BPV Code and the ASME OM Code incorporated by reference into § 50.55a 18 months before the start of a new 120-month ISI and IST interval. Thus, when the NRC approves and requires the use of a later version of the Code for ISI and IST, it is implementing this longstanding regulatory practice and requirement. The NRC is proposing to revise the requirement to update to the latest edition and addenda before the start of every other ISI and IST interval. This proposed revision would be a voluntary relaxation, and thus not a backfit, because licensees will continue to have the option to voluntarily update before the start of each ISI or IST interval under §§ 50.55a(f)(4)(iv) or (g)(4)(iv).

Conclusion

The NRC finds that the proposed incorporation by reference into § 50.55a of the three RGs containing the latest NRC-approved code cases and the proposed revision of § 50.55a to the identified ISI/IST interval conditions, does not constitute backfitting or represent an inconsistency with any issue finality provisions in 10 CFR part 52.

IX. Plain Writing

The Plain Writing Act of 2010 (Pub. L. 111-274) requires Federal agencies to write documents in a clear, concise, and well-organized manner. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, "Plain Language in Government Writing," published June 10, 1998 (63

FR 31885). The NRC requests comment on this document with respect to the clarity and effectiveness of the language used.

X. Environmental Assessment and Proposed Finding of No Significant Environmental Impact

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in subpart A of 10 CFR part 51, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment, an environmental impact statement is not required.

The determination of this environmental assessment is that there will be no significant effect on the quality of the human environment from this action. Public stakeholders should note, however, that comments on any aspect of this environmental assessment may be submitted to the NRC as indicated under the **ADDRESSES** caption.

As voluntary alternatives to the ASME Code, NRC-approved code cases provide an equivalent level of safety. The IST and ISI code of record update frequency is changing the update frequency of a program. Therefore, the probability or consequences of accidents is not changed. There also are no significant, non-radiological impacts associated with this action because no changes would be made affecting nonradiological plant effluents and because no changes would be made in activities that would adversely affect the environment. The determination of this environmental assessment is that there would be no significant offsite impact to the public from this action.

XI. Paperwork Reduction Act

This proposed rule contains new or amended collections of information subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). This proposed rule has

been submitted to the Office of Management and Budget for review and approval of the information collection(s).

Type of submission, new or revision: Revision.

The title of the information collection: Domestic Licensing of Production and Utilization Facilities: Updates to Incorporation by Reference and Regulatory Guides.

The form number if applicable: Not applicable.

How often the collection is required or requested: On occasion

Who will be required or asked to respond: Operating power reactor licensees and applicants for power reactors under construction.

An estimate of the number of annual responses: 1.32 (0.66 reporting and 0.66 recordkeeping)

The estimated number of annual respondents: 0.66

An estimate of the total number of hours needed annually to comply with the information collection requirement or request: 158.6

Abstract: This proposed rule is the latest in a series of rulemakings that incorporate by reference the latest versions of several RGs identifying new and revised unconditionally or conditionally acceptable ASME Code Cases that are approved for use.

The U.S. Nuclear Regulatory Commission is seeking public comment on the potential impact of the information collection(s) contained in this proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?
2. Is the estimate of the burden of the proposed information collection accurate?

3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?

4. How can the burden of the proposed information collection on respondents be minimized, including the use of automated collection techniques or other forms of information technology?

A copy of the Office of Management and Budget (OMB) clearance package is available in ADAMS under Accession No. ML22243A007 or can be obtained free of charge by contacting the NRC's Public Document reference staff at 1-800-397-4209, 301-415-4737, or by email to pdr.resources@nrc.gov. You may obtain information and comment submissions related to the OMB clearance package by searching on <https://www.regulations.gov> under Docket ID NRC-2018-0291.

You may submit comments on any aspect of these proposed information collections, including suggestions for reducing the burden and on the above issues, by the following methods:

- **Federal rulemaking website:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2018-0291.

- **Mail comments to:** FOIA, Library, and Information Collections Branch, Office of the Chief Information Officer, Mail Stop: T-6 A10M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 or to the OMB reviewer at: OMB Office of Information and Regulatory Affairs (3150-0011), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; email: oir_submission@omb.eop.gov.

Submit comments by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date.

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

XII. Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless using such a standard is inconsistent with applicable law or is otherwise impractical. In this proposed rule, the NRC is continuing to use the ASME BPV and OM Code Cases, which are ASME-approved voluntary alternatives to compliance with various provisions of the ASME BPV and OM Codes. The NRC's approval of the ASME Code Cases is accomplished by amending the NRC's regulations to incorporate by reference the latest revisions of the following, which are the subject of this rulemaking, into § 50.55a: RG 1.84, Revision 40; RG 1.147, Revision 21; and RG 1.192, Revision 5. The RGs list the ASME Code Cases that the NRC has approved for use. The ASME Code Cases are national consensus standards as defined in the National Technology Transfer and Advancement Act of 1995 and OMB Circular A-119. The ASME Code Cases constitute voluntary consensus standards, in which all interested parties (including the NRC and licensees of nuclear power plants) participate. The NRC invites comment on the applicability and use of other standards.

XIII. Incorporation by Reference

The NRC proposes to incorporate by reference three NRC RGs that list new and revised the ASME Code Cases that the NRC has approved as voluntary alternatives to

certain provisions of NRC-required editions and addenda of the ASME BPV Code and the ASME OM Code. The draft regulatory guides, DG-1405, DG-1406, and DG-1407, will correspond to final RG 1.84, Revision 40; RG 1.147, Revision 21; and RG 1.192, Revision 5, respectively.

- RG 1.84, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,” Revision 40 (Draft Regulatory Guide (DG)-1405), would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases newly listed in this revised RG as voluntary alternatives to ASME engineering standards for the construction of nuclear power plant components.

- RG 1.147, “Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,” Revision 21 (DG-1406), would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases newly listed in this revised RG as voluntary alternatives to ASME engineering standards for the inservice inspection of nuclear power plant components.

- RG 1.192, “Operation and Maintenance [OM] Code Case Acceptability, ASME OM Code,” Revision 5 (DG-1407), action would allow nuclear power plant licensees and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses to use the code cases newly listed in this revised RG as voluntary alternatives to ASME engineering standards for the inservice examination and testing of nuclear power plant components.

The NRC is required by law to obtain approval for incorporation by reference from the Office of the Federal Register (OFR). The OFR’s requirements for incorporation by reference are set forth in 1 CFR part 51. On November 7, 2014, the OFR adopted changes to its regulations governing incorporation by reference (79 FR

66267). The OFR regulations require an agency to include in a proposed rule a discussion of the ways that the materials the agency proposes to incorporate by reference are reasonably available to interested parties or how it worked to make those materials reasonably available to interested parties. The discussion in this section complies with the requirement for proposed rules as set forth in 1 CFR 51.5(a)(1).

The NRC considers “interested parties” to include all potential NRC stakeholders, not only the individuals and entities regulated or otherwise subject to the NRC’s regulatory oversight. These NRC stakeholders are not a homogenous group, so the considerations for determining “reasonable availability” vary by class of interested parties. The NRC identified six classes of interested parties with regard to the material to be incorporated by reference in an NRC rule:

- Individuals and small entities regulated or otherwise subject to the NRC’s regulatory oversight. This class includes applicants and potential applicants for licenses and other NRC regulatory approvals, and who are subject to the material to be incorporated by reference. In this context, “small entities” has the same meaning as set out in § 2.810.
- Large entities otherwise subject to the NRC’s regulatory oversight. This class includes applicants and potential applicants for licenses and other NRC regulatory approvals, and who are subject to the material to be incorporated by reference. In this context, a “large entity” is one that does not qualify as a “small entity” under § 2.810.
- Non-governmental organizations with institutional interests in the matters regulated by the NRC.
- Other Federal agencies, States, local governmental bodies (within the meaning of § 2.315(c)).
- Federally recognized and State-recognized Indian tribes.
- Members of the general public (i.e., individual, unaffiliated members of the public who are not regulated or otherwise subject to the NRC’s regulatory oversight)

who need access to the materials that the NRC proposes to incorporate by reference in order to participate in the rulemaking.

The three draft RGs that the NRC proposes to incorporate by reference in this proposed rule are available without cost and can be read online or downloaded online. The draft RGs can be viewed, by appointment, at the NRC Technical Library, which is located at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852; telephone: 301-415-7000; e-mail: Library.Resource@nrc.gov.

Because the three draft regulatory guides, and eventually, the final regulatory guides, are available in various forms at no cost, the NRC determines that the three draft regulatory guides, DG-1405, DG-1406, and DG-1407, and final RG 1.84, Revision 40; RG 1.147, Revision 21; and RG 1.192, Revision 5, once approved by the OFR for incorporation by reference, are reasonably available to all interested parties.

XIV. Availability of Guidance

The NRC will not be issuing guidance for this rulemaking.

XV. Public Meeting

The NRC may conduct a public meeting on the proposed rule for the purpose of describing the changes to the code of record update frequency and its impact on the ISI and IST programs. The staff will also answer questions from the public regarding this proposed rule.

The NRC will publish a notice of the location, time, and agenda of the meeting, if held, in the *Federal Register*, on Regulations.gov, and on the NRC's public meeting website within at least 10 calendar days before the meeting. Stakeholders should monitor the NRC's public meeting website for information about the public meeting at: <https://www.nrc.gov/public-involve/public-meetings/index.cfm>.

XVI. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

Table III—Rulemaking-Related Documents

DOCUMENT	ADAMS ACCESSION NO. / <i>FEDERAL REGISTER</i> CITATION
SRM-SECY-21-0029, "Rulemaking Plan on Relaxation of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a," dated November 8, 2021	ML21312A490
SECY-21-0029, "Rulemaking Plan on Relaxation of Inservice Testing and Inservice Inspection Program Update Frequencies Required in 10 CFR 50.55a," dated March 15, 2021	ML20273A286
SECY-22-0075, "Staff Requirements-SECY-21-0029 Inservice Testing and Inservice Inspection Program Rulemakings Update [NRC-2018-0291/3150-AK23]," dated August 10, 2022	ML22124A178
Rulemaking-Proposed Rule-Draft Regulatory Analysis for American Society of Mechanical Engineers Code Cases, RG 1.84, Rev. 40; RG 1.147, Rev. 21; RG 1.192 Rev. 5; RG 1.193, Rev. 8, dated January 2023	ML22243A006
Rulemaking-Proposed Rule-OMB Clearance Package for American Society of Mechanical Engineers Code Cases, RG 1.84, Rev. 40; RG 1.147, Rev. 21; RG 1.192 Rev. 5; RG 1.193, Rev. 8	ML22243A007
RG 1.193, ASME Code Cases Not Approved for Use, Revision 8 (DG-1408), dated January 2023	ML22196A065
ASME OM Code Case Applicability Index, dated July 1, 2022	ML22279A967N
ASME Letter to NRC, "ASME Request for Including Specific Code Cases in Draft Revision 21 of Regulatory Guide 1.147," dated December 22, 2021	ML22046A112
Final Rule—"Codes and Standards for Nuclear Power Plants and Technical Information," February 12, 1976	41 FR 6256
Proposed Rule—"Domestic Licensing of Production and Utilization Facilities Codes and Standards for Nuclear Powerplants," January 18, 1979	44 FR 3719
Final Rule—"Domestic Licensing of Production and Utilization Facilities; Codes and Standards for Nuclear Powerplants," October 9, 1979	44 FR 57912
Codes and Standards for Nuclear Power Plants; Subsection IWE and Subsection IWL, August 8, 1996	61 FR 41303
Proposed Rule—Industry Codes and Standards; Amended Requirements, September 22, 1999	64 FR 51370

Final Rule—Industry Codes and Standards; Amended Requirements, September 26, 2002	67 FR 60529
Final Rule—“Incorporation by Reference of ASME BPV and OM Code Cases,” July 8, 2003	68 FR 40469
Final Rule—“Approval of American Society of Mechanical Engineers Code Cases,” March 3, 2022	87 FR 11934
Final Rule—“American Society of Mechanical Engineers 2019–2020 Code Editions Incorporation by Reference,” October 27, 2022	87 FR 65128

Documents Proposed to be Incorporated by Reference

The NRC proposes to incorporate by reference three NRC RGs, as set forth in Table IV, that list new and revised ASME Code Cases that the NRC is proposing to approve as voluntary alternatives to certain provisions of NRC-required editions and addenda of the ASME BPV Code and the ASME OM Code.

**Table IV—Draft Regulatory Guides Proposed to be
Incorporated by Reference in 10 CFR 50.55a**

DOCUMENT	ADAMS Accession No./Federal Register Citation
RG 1.84, Design, Fabrication, and Materials Code Case Acceptability, ASME Section III, Revision 40 (DG-1405)	ML22195A282
RG 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1, Revision 21 (DG-1406)	ML22195A284
RG 1.192, Operation and Maintenance Code Case Acceptability, ASME OM Code, Revision 5 (DG-1407)	ML22196A063

Code Cases for Approval in this Proposed Rule

The ASME BPV Code Cases that the NRC is proposing to approve as alternatives to certain provisions of the ASME BPV Code, as set forth in Table V, are being made available by the ASME for read-only access during the public comment period on <https://go.asme.org/NRC-ASME>.

The ASME OM Code Cases that the NRC is proposing to approve as alternatives to certain provisions of the ASME OM Code, as set forth in Table V, are being made

available for read-only access during the public comment period by the ASME on <https://go.asme.org/NRC-ASME>.

The ASME is making the code cases listed in Table V available for limited, read-only access at the request of the NRC. The NRC believes that stakeholders need to be able to read these code cases in order to provide meaningful comment on the three RGs (listed in Table IV) that the NRC is proposing to incorporate by reference into § 50.55a. It is the NRC's position that the listed code cases, as modified by any conditions contained in the three RGs and thus serving as alternatives to requirements in § 50.55a, would be legally-binding regulatory requirements. An applicant or licensee must comply with a listed code case and any conditions to be within the scope of the NRC's approval of the code case as a voluntary alternative for use. These requirements cannot be fully understood without knowledge of the code case to which the proposed condition applies, and to this end, the NRC has requested that the ASME provide limited, read-only access to the code cases in order to facilitate meaningful public comment.

Table V—ASME Code Cases Proposed for NRC Approval

Boiler and Pressure Vessel Code Section III		
Code Case No.	Supplement	Title
N-351-1	3 (2021 Edition)	Use of Standard Subsize Charpy V-Notch Impact Specimens, Section III, Division 1; Section III, Division 2; Section III, Division 3
N-893	4 (2019 Edition)	Use of Alloy Steel Bar and Mechanical Tubing in Class 2 and 3 Patented Mechanical Joints and Fittings, Section III, Division 1
N-900	3 (2019 Edition)	Alternative Rules for Level D Service Limits of Class 1, 2, and 3 Piping Systems, Section III, Division 1
N-901	4 (2019 Edition)	Use of ASME SA-494 Grade M35-1 for Line Valve Bodies and Bonnets, and Bodies, Bonnets, and Yokes of Pressure Relief Valves for Class 2 and 3 Construction, Section III, Division 1
N-902	5 (2019 Edition)	Thickness and Gradient Factors for Piping Fatigue Analyses, Section III, Division 1

N-904	6 (2019 Edition)	Alternative Rules for Simplified Elastic–Plastic Analysis, Section III, Division 1
N-905	6 (2019 Edition)	Alternate Design Fatigue Curves to Those Given in For Section III Appendices, Mandatory Appendix I, Figures I-9.1 and I-9.1M, Section III, Division 1
N-908	7 (2019 Edition)	Use of Ferritic/Austenitic Wrought WPS32750/CRS32750 Fittings of Seamless or Welded Construction Conforming to SA-815, Class 3, Section III, Division 1
N-910	7 (2019 Edition)	Use of 25Cr-7Ni-4Mo-N (Alloy UNS S32750 Austenitic/Ferritic Duplex Stainless Steel) Forgings, Plate, and Welded and Seamless Pipe and Tubing Conforming to SA-182, SA-240, SA-789, or SA-790, Section III, Division 1
N-919	2 (2021 Edition)	Alternative Fatigue Evaluation Method to Consider Environmental Effects on Class 1 Components Section III, Division 1
N-920	2 (2021 Edition)	Alternative Fatigue Design Curves for Ferritic Steels With Ultimate Tensile Strengths (UTS) \leq 80 ksi (552 MPa) and Austenitic Steels, Section III, Division 1
N-71-21	0 (2021 Edition)	Additional Materials for Subsection NF, Class 1, 2, 3, and MC Supports Fabricated by Welding, Section III, Division 1
N-570-3	0 (2021 Edition)	Alternative Rules for Linear Piping and Linear Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1

Boiler and Pressure Vessel Code, Section XI

Code Case No.	Supplement	Title
N-561-4	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 2 and High Energy Class 3 Carbon Steel Piping, Section XI, Division 1
N-562-4	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 3 Moderate Energy Carbon Steel Piping, Section XI, Division 1
N-597-5	0 (2021 Edition)	Evaluation of Pipe Wall Thinning, Section XI, Division 1
N-638-11	2 (2019 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1
N-661-5	0 (2021 Edition)	Alternative Requirements for Wall Thickness Restoration of Class 2 and 3 Carbon Steel Piping for Raw Water Service Section XI, Division 1
N-663-1	3 (2021 Edition)	Alternative Requirements for Classes 1 and 2 Surface Examinations, Section XI, Division 1

N-733-1	6 (2019 Edition)	Mitigation of Flaws in NPS 3 (DN 80) and Smaller Nozzles and Nozzle Partial Penetration Welds in Vessels and Piping by Use of a Mechanical Connection Modification, Section XI, Division 1
N-780-1	1 (2021 Edition)	Alternative Requirements for Upgrade, Substitution, or Reconfiguration of Examination Equipment When Using Appendix VIII Qualified Ultrasonic Examination Systems, Section XI, Division 1
N-786-4	0 (2021 Edition)	Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping, Section XI, Division 1
N-789-5	1 (2021 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping for Raw Water Service, Section XI, Division 1
N-809-1	0 (2021 Edition)	Reference Fatigue Crack Growth Rate Curves for Austenitic Stainless Steels in Pressurized Reactor Water Environments, Section XI, Division 1
N-853-1	0 (2021 Edition)	PWR Class 1 Primary Piping Alloy 600 Full Penetration Branch Connection Weld Metal Buildup for Material Susceptible to Primary Water Stress Corrosion Cracking, Section XI, Division 1
N-860	6 (2019 Edition)	Inspection Requirements and Evaluation Standards for Spent Nuclear Fuel Storage and Transportation Containment Systems, Section XI, Division 1; Section XI, Division 2
N-865-2	0 (2021 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Atmospheric Storage Tanks, Section XI, Division 1
N-877-1	5 (2019 Edition)	Alternative Characterization Rules for Multiple Subsurface Radially Oriented Planar Flaws, Section XI, Division 1
N-882-1	0 (2021 Edition)	Alternative Requirements for Attaching Nonstructural Electrical Connections to Class 2 and 3 Components, Section XI, Division 1
N-885-1	3 (2021 Edition)	Alternative Requirements for Table IWB-2500-1, Examination Category B-N-1, Interior of Reactor Vessel, Category B-N-2, Welded Core Support Structures and Interior Attachments to Reactor Vessels, Category BN-3, Removable Core Support Structures, Section XI, Division 1
N-888	5 (2019 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature SMAW or Machine GTAW Temper Bead Technique, Section XI, Division 1
N-896	2 (2019 Edition)	Reference Crack Growth Rate Curves for Stress Corrosion Cracking of Low Alloy Steels in Boiling Water Reactor Environments, Section XI, Division 1
N-911	0 (2021 Edition)	Purchase, Exchange, or Transfer of Material Between Nuclear Owners, Section XI, Division 1

N-912	0 (2021 Edition)	Alternative Requirements for Qualification of Material Suppliers and Acceptance of Materials, Section XI, Division 1
N-913	0 (2021 Edition)	Alternative Examination Requirements for Class 1 Pressure-Retaining Welds in Control Rod Drive Housings, Section XI, Division 1
N-917	2 (201 Edition)	Fatigue Crack Growth Rate Curves for Ferritic Steels in Boiling Water Reactor (BWR) Environments, Section XI, Division 1
N-711-2	6 (2019 Edition)	Alternative Examination Coverage Requirements for Examination Category B F, B J, C-F-1, C-F-2, and R-A Piping Welds, Section XI, Division 1
N-716-3	5 (2019 Edition)	Alternative Classification and Examination Requirements, Section XI, Division 1
N-754-2	0 (2021 Edition)	Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1
N-766-4	0 (2021 Edition)	Nickel Alloy Reactor Coolant Inlay and Onlay for Mitigation of PWR Full Penetration Circumferential Nickel Alloy Dissimilar Metal Welds in Class 1 Items, Section XI, Division 1
N-847-1	0 (2021 Edition)	Partial Excavation and Deposition of Weld Metal for Mitigation of Class 1 Items, Section XI, Division 1
N-880-1	0 (2021 Edition)	Alternative to Procurement Requirements of IWA-4143 for Small Nonstandard Welded Fittings, Section XI, Division 1
N-899	3 (2019 Edition)	Weld Residual Stress Distributions for Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082, UNS W86182, UNS N06052, or UNS W86152 Weld Filler Material, Section XI, Division 1
N-906	7 (2019 Edition)	Flaw Evaluation Procedure for Cast Austenitic Stainless Steel Piping and Adjacent Fittings, Section XI, Division 1
N-921	3 (2021 Edition)	Alternative 12-yr Inspection Interval Duration, Section XI, Division 1
Operation and Maintenance Code		
Code Case No.	Edition⁶	Title
OMN-28	2022 Edition	Alternative Valve Position Verification Approach to Satisfy ISTC-3700 for Valves Not Susceptible to Stem-Disk Separation
OMN-29	2022 Edition	Pump Condition Monitoring Program
OMN-30	2022 Edition	Alternative Valve Position Verification Approach to Satisfy ISTC-3700

⁶ Each code case or ASME Applicability Index List indicates the ASME OM Code editions and addenda to which the code case applies, except where a condition is specified in § 50.55a or RG 1.192 related to technical content or applicability. This table indicates the latest OM Code edition at the time of this rulemaking.

OMN-31	2022 Edition	Alternative to Allow Extension of ISTA-3120 Inservice Examination and Test Intervals From 10 Years to 12 Years
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Throughout the development of this rule, the NRC may post documents related to this rule, including public comments, on the Federal rulemaking website at <https://www.regulations.gov> under Docket ID NRC-2018-0291. In addition, the Federal rulemaking website allows members of the public to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2018-0291); 2) click the “Subscribe” link; and 3) enter an email address and click on the “Subscribe” link.

List of Subjects in 10 CFR Part 50

Administrative practice and procedure, Antitrust, Backfitting, Classified information, Criminal penalties, Education, Emergency planning, Fire prevention, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Penalties, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements, Whistleblowing.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553, the NRC is proposing to amend 10 CFR part 50 as follows:

PART 50 – DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for part 50 continues to read as follows:

Authority: Atomic Energy Act of 1954, secs. 11, 101, 102, 103, 104, 105, 108, 122, 147, 149, 161, 181, 182, 183, 184, 185, 186, 187, 189, 223, 234 (42 U.S.C. 2014,

2131, 2132, 2133, 2134, 2135, 2138, 2152, 2167, 2169, 2201, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2239, 2273, 2282); Energy Reorganization Act of 1974, secs. 201, 202, 206, 211 (42 U.S.C. 5841, 5842, 5846, 5851); Nuclear Waste Policy Act of 1982, sec. 306 (42 U.S.C. 10226); National Environmental Policy Act of 1969 (42 U.S.C. 4332); 44 U.S.C. 3504 note; Sec. 109, Pub. L. 96-295, 94 Stat. 783.

2. In § 50.55a:

a. Revise the introductory text of paragraph (a);

b. In paragraph (a)(3)(i):

i. Remove the text “Revision 39”, wherever it appears, and add, in its place, the text “Revision 40”; and

ii. Remove the text “issued December 2021” and add, in its place, the text “issued January 2023”;

c. In paragraph (a)(3)(ii):

i. Remove the text “Revision 20”, wherever it appears, and add, in its place, the text “Revision 21”; and

ii. Remove the text “issued December 2021” and add in its place the text “issued January 2023”;

d. In paragraph (a)(3)(iii):

i. Remove the text “Revision 4” and add, in its place, the text “Revision 5”;

ii. Remove the text “Revision 3” and add, in its place, the text “Revision 5”; and

iii. Remove the text “issued December 2021” and add, in its place, the text “issued January 2023”;

e. In paragraphs (b)(5)(ii) and (iii) and (b)(6)(ii) and (iii), remove the text “120-month interval” and add in its place the text “code of record interval”, wherever it appears; and

f. In paragraphs (b)(5)(ii) and (b)(6)(ii), remove the text “120-month ISI program intervals” and add in its place the text “code of record intervals”, wherever it appears;

g. Revise paragraphs (f)(4)(i) and (ii);

h. In paragraph (f)(5)(iv), remove the text “120-month interval of operation”,

wherever it appears, and add in its place the text “inservice examination and test interval”;

i. In paragraph (f)(7), remove the text “120-month IST Program interval”, wherever it appears, and add in its place the text “inservice examination and test interval”;

j. In paragraph (g)(4) introductory text, remove the text “ASME Code Class 1, Class 2, and Class 3” and add in its place the text “ASME BPV Code Class 1, Class 2, and Class 3”;

k. Revise paragraphs (g)(4)(i) and (ii);

l. In the heading for paragraph (g)(5)(i), remove the text “ISI Code editions and addenda” and add in its place the text “code of record”;

m. In paragraph (g)(5)(ii), remove the text “period” and add in its place the text “code of record interval”;

n. In paragraph (g)(5)(iii), remove the text “120-month” and “inservice”;

o. In paragraph (g)(5)(iv), remove the text “120-month”; and

p. Add paragraph (y).

The revisions and additions read as follows:

§ 50.55a Codes and standards.

(a) *Documents approved for incorporation by reference.* The material listed in this paragraph (a) is incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection at the Nuclear Regulatory Commission (NRC) and at the National Archives and Records Administration (NARA). Contact NRC at: the NRC Technical Library, which is located at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852; telephone: 301-415-7000; email: Library.Resource@nrc.gov. For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations.html or email fr.inspection@nara.gov. The material may be obtained from the following sources in this paragraph (a).

* * * *

(f) * *

(4) * *

(i) *Applicable IST Code: Initial code of record interval.* Inservice tests to verify operational readiness of pumps and valves, whose function is required for safety, conducted during the initial code of record interval must comply with the requirements in the latest edition and addenda of the ASME OM Code incorporated by reference in paragraph (a)(1)(iv) of this section on the date no more than 18 months before the date of issuance of the operating license under this part, or no more than 18 months before the date scheduled for initial loading of fuel under a combined license under part 52 of this chapter (or the optional ASME OM Code Cases listed in NRC Regulatory Guide 1.192, as incorporated by reference in paragraph (a)(3)(iii) of this section, subject to the conditions listed in paragraph (b) of this section).

(ii) *Applicable IST Code: Successive code of record intervals.* Inservice tests to verify operational readiness of pumps and valves, whose function is required for safety, conducted during successive code of record intervals must comply with the requirements of the latest edition and addenda of the ASME OM Code incorporated by reference in paragraph (a)(1)(iv) of this section no more than 18 months before the start of the code of record interval (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147 or NRC Regulatory Guide 1.192 as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section, respectively), subject to the conditions listed in paragraph (b) of this section.

* * * *

(g) * *

(4) * *

(i) *Applicable ISI Code: Initial code of record interval.* Inservice examination of components and system pressure tests conducted during the initial code of record interval must comply with the requirements in the latest edition and addenda of the

ASME BPV Code incorporated by reference in paragraph (a) of this section on the date no more than 18 months before the date of issuance of the operating license under this part, or no more than 18 months before the date scheduled for initial loading of fuel under a combined license under part 52 of this chapter (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147, when using ASME BPV Code, Section XI, or NRC Regulatory Guide 1.192, when using the ASME OM Code, as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section, respectively), subject to the conditions listed in paragraph (b) of this section. Licensees may, at any time in their code of record interval, elect to use the Appendix VIII in the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section, subject to any applicable conditions listed in paragraph (b) of this section. Licensees using this option must also use the same edition and addenda of Appendix I, Subarticle I-3200, as Appendix VIII, including any applicable conditions listed in paragraph (b) of this section.

(ii) *Applicable ISI Code: Successive code of record intervals.* Inservice examination of components and system pressure tests conducted during successive code of record intervals must comply with the requirements of the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section no more than 18 months before the start of the code of record interval (or the optional ASME Code Cases listed in NRC Regulatory Guide 1.147, when using ASME BPV Code, Section XI, or NRC Regulatory Guide 1.192, when using the ASME OM Code, as incorporated by reference in paragraphs (a)(3)(ii) and (iii) of this section), subject to the conditions listed in paragraph (b) of this section. Licensees may, at any time in their code of record interval, elect to use the Appendix VIII in the latest edition and addenda of the ASME BPV Code incorporated by reference in paragraph (a) of this section, subject to any applicable conditions listed in paragraph (b) of this section. Licensees using this option must also use the same edition and addenda of Appendix I, Subarticle I-3200, as Appendix VIII, including any applicable conditions listed in

paragraph (b) of this section.

* * * * *

(y) *Definitions.* (1) *Code of record* means:

(i) For the ASME BPV Code, Section XI, the edition (and addenda) implemented by a licensee in accordance with the requirements of this section.

(ii) For the ASME OM Code, the edition (and addenda) implemented by a licensee in accordance with the requirements of this section.

(iii) For the ASME BPV Code, Section III, the edition implemented by a licensee in accordance with the requirements of this section, which may vary by component.

(2) *Code of record interval* means the period of time between the code of record updates required by paragraphs (f)(4) and (g)(4) of this section for the inservice inspection and inservice examination and test programs, respectively.

(i) For licensees with codes of record prior to ASME BPV Code, Section XI, 2019 Edition, and OM Code, 2020 Edition, as incorporated by reference in paragraph (a) of this section, the code of record interval is the same as the inspection interval or inservice examination and test interval.

(ii) For licensees with codes of record of ASME BPV Code, Section XI, 2019 Edition and OM Code, 2020 Edition, or later, as incorporated by reference in paragraph (a) of this section, the code of record interval is two consecutive inservice inspection or inservice examination and test intervals.

(3) *Inservice examination and test (IST) interval*, for the purposes of this section, means the inservice examination and test interval described by the licensee's code of record (paragraph ISTA-3120 of the ASME OM Code, 2001 Edition through 2009 Edition, or paragraph ISTA-3120 of the ASME OM Code, 2012 Edition and later).

(4) *Inservice inspection (ISI) program*, for the purposes of this section, means the set of all administrative and technical requirements pertaining to periodic examination of nuclear components, as specified in ASME BPV Code, Section XI, and this section, including but not limited to:

(i) The requirements of IWA-2400 of ASME BPV Code, Section XI, 1991

Addenda and later.

(ii) Relief requested under paragraph (g)(5)(iii) of this section and granted under paragraph (g)(6)(i) of this section.

(iii) The augmented inspection program described in paragraph (g)(6) of this section.

(iv) Alternatives authorized under paragraph (z) of this section.

(5) *Inservice examination and testing (IST) program*, for the purposes of this section, means the requirements for preservice and inservice examination and testing of pumps, valves, and dynamic restraints within the scope of this section to assess their operational readiness in nuclear power plants, including but not limited to:

(i) The requirements specified in the ASME OM Code, as incorporated by reference in this section, such as for test or examination, responsibilities, methods, intervals, parameters to be measured and evaluated, criteria for evaluating the results, corrective action, personnel qualification, and recordkeeping.

(ii) Relief requested under paragraph (f)(5)(iii) of this section and granted under paragraph (f)(6)(i) of this section.

(iii) Augmented IST requirements as applied by the Commission under paragraph (f)(6)(ii) of this section.

(iv) Alternatives authorized under paragraph (z) of this section.

(6) *Inspection interval*, as used in this section, means the inservice inspection interval described by the licensee's code of record (Article IWA-2432 of ASME BPV Code, Section XI, 1989 Edition with 1991 Addenda through the 2008 Addenda, or Article IWA-2431 of ASME BPV Code, Section XI, 2009 Addenda and later).

* * * * *

3. In section III of option A of appendix J to part 50, remove and reserve footnote 2 and revise paragraph D.1.(a) to read as follows:

Appendix J to Part 50—Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors

* * * *

Option A--Prescriptive Requirements

* * * *

III. * * *

D. * * *

1. * * *

(a) After the preoperational leakage rate tests, a set of three Type A tests shall be performed, at approximately equal intervals during each inspection interval, as defined in § 50.55a(y). The third test of each set shall be conducted when the plant is shutdown for the final plant inservice inspections of the inspection interval.

* * * *

Dated: February 17, 2023.

For the Nuclear Regulatory Commission.

Michael F. King,
Acting Director,
Office of Nuclear Reactor Regulation.

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